Graduate School of EEWS

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Overview

To sustain the human habitat in the 21st century, it is well recognized that we must solve problems related to energy, environment, water, and natural resources through science, technology, and cultivation of skilled human experts. Also, climate changes coupled with the high oil prices are driving sustainable energy legislation, incentives and commercialization to reduce the carbon dioxide emissions, according to the 'Kyoto Protocol.'

The Graduate School of EEWS aims at becoming a global hub for research, innovation, and education with the world-leading faculty in the fields related to sustainable energy science & engineering technologies, as well as training highly educated people with the ability, knowledge, and leadership in the latter disciplines to lead the global effort.

The core technology for the sustainable energy engineering is creating a new paradigm through merging NT (Nanotechnology) and ET (Energy and Environment Technology). Therefore, it is imperative to develop an interdisciplinary program for the sustainable energy engineering including the introduction of the new integrated curriculum. For example, some of our efforts include the development of low-cost and highly efficient water desalination technologies, innovative hydrogen energy technologies that utilize it as an efficient fuel by capturing and storing the hydrogen, liquefied hydrocarbons that emerge from the captured carbon dioxide, developing highly efficient photovoltaic cells through optical and structural engineering, mechanical behavior study of nanomaterials, developing high efficiency energy conversion and storage devices using nanomaterials, and modeling and simulations of nanomaterials and electronic/energy/bio devices.